the programmed microprocessor. In one switch position, the data signal from the keyboard **12** is directed to the computer **10** from an output connector **30** along lead **24** to a keyboard socket **29** of the computer. In a second position, the switch **22** allows the flow of serial data stored in the memory card to be directed to the keyboard socket **29** Data from the computer memory is directed from a serial port **31** of the computer along line **28** to the encoder/decoder.

The encoder /decoder is contained in a housing having a socket **15** for accepting the memory card for recording data thereon and for readout of the recorded data. The memory card has conductive or inductive elements coupled to the circuitry of the IC chip embedded in the card. The conductive elements are exposed on the card and are accessible for connection to terminals of the encoder/decoder circuit, or alternatively an inductive element of the encoder /decoder couples the data.

When the data collection system is operative, the memory card is inserted in the socket **15**. The keyboard is operated to provide data signals representing alphanumeric characters to the computer. The computer stores the data for future use. The computer is directed to feed the data to the encoder/decoder which operates to encode the data signal. The microprocessor **20** receives the data to be encoded and under commands from the program in the memory **21** processes the data. The processed data which has been encoded is applied to the memory chip for storage in the memory cells of the semiconductor.

When it is desired to retrieve the data that was recorded on the card, the card is inserted in the socket **15** so that electrical connection is made between the IC chip circuit and the encoder/decoder terminals. The data that is recorded in the memory cells of the semiconductor chip is decoded by the microprocessor of the decoder. The data that is read out from the card is fed to the computer for viewing or printout by an accessory printer or for editing if necessary.

Since individual characters can be transmitted to the card by the encoder, the card can be encoded at the same time as the data for the card is being typed into the microcomputer. Improperly typed characters can be replaced one at a time or the entire card can be erased and rerecorded.

The decoding and reading portion of the system is implemented by way of the keyboard interface of the computer. The data from the card is translated into the form of ordinary letters and numbers as generated by the keyboard of the microcomputer. This frees the user from having to understand or translate some proprietary encoding scheme. The encoder/decoder will allow data to be easily transmitted to almost any microcomputer software program.

Data from the card can also be optionally decoded and transmitted to a serial (RS-232) interface printer for purposes of verification, on-demand label printing and record-keeping.

In one implementation of the invention the encoder/decoder was 6.0" wide by 5.0" deep by 3.0" tall. The unit weighed 2 lbs. Externally the unit is constructed entirely of metal components, and does not require any separate power supply.

In order for the badge to fulfill the dual purpose role of electronic identification as well as visual identification, it can be fitted with a removable paper label with visually readable characters identifying the cardholder.

This removable label is made of a paper and adhesive which ensures that it does not accidentally fall off or peel off, but that it can be removed easily at the end of a show to facilitate the process of reusing the card for future shows.

The removable label is generated by any printing process such as impact, dot-matrix, thermal, laser, ion deposition, photo-offset or photo composition.

There has been described herein a data processing system for use with an identification card having a semiconductor memory. An encoder/decoder provides a direct interface between a keyboard circuit and the keyboard socket of a computer. The system provides direct access to any computer program and conventional computer operation is used to format and store data. The stored data is written on the card and subsequently can be read out with an existing computer program. The data from the card is translated into the form of ordinary letters and numbers as generated by the keyboard of the computer. This frees the user from having to understand or translate a proprietary encoding scheme. There is no need to modify a program for receiving and accepting an RS232 input, as is found necessary with prior known systems.

What is claimed is:

1. A data collection system for processing and storing information that is recorded electrically on an identification card having a semiconductor memory chip embedded therein comprising:

a data processor having an input terminal for receiving data;

a keyboard for generating a data signal in response to actuation by an operator;

an encoder/decoder circuit coupled to the output of said keyboard for receiving said generated data signal, said encoder/decoder circuit having an interface for coupling said circuit to said data processor input terminal;

means formed with said encoder/decoder circuit for receiving said identification card so that electrical connection is made between said memory chip and said encoder/decoder circuit.

2. A data collection system as in claim **1**, wherein said encoder/decoder circuit comprises an electronic switch for controlling the flow of data signal between said data processor and said encoder/decoder.

3. A data collection system as in claim **2**, wherein said electronic switch is a dynamic multipole, double throw switch.

4. A data collection system as in claim **1**, wherein said encoder/decoder circuit comprises a microprocessor for encoding data received from said processor and for decoding data recorded on said card.

5. A data collection system as in claim **4**, wherein said encoder/decoder circuit includes a program memory for controlling the operation of said microprocessor.

6. An encoder/decoder circuit for providing an interface between a keyboard and a computer having a keyboard connector comprising;

a microprocessor coupled to said computer for receiving data formatted by said computer and for encoding and decoding said formatted data that is stored on a memory card;

a socket for accepting said memory card coupled to said encoder/decoder circuit;

an electronic switch for directing data signals from said keyboard to said keyboard connector;